



Brazil: Oil and Gas Exploration and Production Subsector

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Summary

Although Brazil ranks 15th in world proven oil reserves and 14th in oil production, it is not part of the Organization of Petroleum Exporting Countries (OPEC); however, the new large oil and gas discoveries that Petrobras made in late 2007 under the pre-salt layer, could turn Brazil into a net oil and gas exporter.

According to a recent presentation by Brazil's National Oil and Gas Regulator ANP, Brazil's 2008 proven oil reserves reached 12.8 billion barrels; gas reserves amounted to 365 billion m³ and oil production was 1.83 million barrels/day. As of July 2009, about 89 percent of oil production and 69 percent of gas production originates from **offshore** fields, mostly at extreme depths. Petrobras's oil and gas production accounts for nearly 98 percent of total Brazil's production.

In 2008, Brazil exported about 140,000 bpd, since Brazilian refineries are not capable of processing all of the heavy oil produced in the country. During the same period, Brazil refined about 1.7 million barrels per day (bpd), 133,000 of which were light oil imported to mix with Brazil's predominantly heavy oil.

Since state-owned Petrobras' monopoly ended in 1998, 72 firms, half of which are foreign companies started doing business in Brazil, with 819 oil blocks awarded during ten oil-concession licensing rounds. The last auction occurred in December 2008. Petrobras won the majority of these concessions, so most opportunities for U.S. firms lie in servicing or supplying Petrobras. (Interested suppliers must register at www.petrobras.com.br - "Suppliers Channel Guide.")

On August 31, 2009, the Brazilian government unveiled the newly proposed pre-salt regulatory regime. The goal is to change from the existing oil concession model to a production sharing agreement, and to make Petrobras the operator in all future pre-salt fields. The bill was sent to the Brazilian Congress, but approval is not expected before March 2010 given various political sensitivities.

The 2008 estimate for Brazil's oil and gas equipment and services market is USD\$50.9 billion. Of that amount, USD\$15.1 billion is imported with about USD\$7.5 billion coming from the United States. These figures do not include operational expenses, which would add approximately 40 percent to the market. These statistics are based on Petrobras' 2008 direct acquisitions, other oil companies' investments according to the Brazilian Petroleum Institute's estimates, and general statistics from the Brazilian Machinery Association (ABIMAQ).

| USD\$ millions | Market Size | Local Production | Exports | Imports (Global) | Imports from US |
|----------------|-------------|------------------|---------|------------------|-----------------|
| 2008 est* | \$50,860 | \$38,800 | \$3,000 | \$15,060 | \$7,530 |
| 2009 est* | \$57,430 | \$44,620 | \$3,000 | \$15,810 | \$7,905 |

Petrobras, Brazil's publicly traded state-owned energy company is ranked among the top 15 oil companies in the world. Petrobras was created in 1953 to operate in all oil and gas segments. It is Brazil's largest company with net revenues of R\$215 billion (approximately USD\$107 billion in 2008) and a net income of R\$33 billion (USD\$16.5 billion).

From 2009–2013, Petrobras plans to invest U.S. \$174.4 billion to increase production capacity to 3.6 million barrels of oil per day (bpd) in Brazil (90%) and abroad (10%).

From 2009 to 2020, Petrobras plans to invest USD\$ 111.4 billion to develop the **pre-salt oil fields**. By 2020, Petrobras plans to produce 5.7 million bpd plus 1,815 million bpd from pre-salt fields. This figure includes Petrobras and its partners' pre-salt production.

The Brazilian Petroleum Institute (IBP) estimates that other oil companies will invest USD\$34.5 billion in Brazil from 2009-2013, and that USD\$12 billion will be invested to develop pre-salt fields. End Summary

Market Demand

Petrobras:

According to a July 2009 article published by www.LatinPetroleum.com, Petrobras surged from 63rd to 34th place among the world's top 500 companies, according to the global ranking published by Fortune Magazine, which was based on 2008 revenues. Petrobras is still the leader among the Brazilian companies, with USD\$118.2 billion in sales and raking in USD\$18.8 billion in profit.

Of the Fortune 500 companies, this year Petrobras appears 6th among the most profitable, eclipsing companies like Microsoft (7th), General Electric (8th), Nestlé (9th), Wal-Mart (14th), and the Brazilian mining conglomerate Vale (16th). Among the top ten, seven are from the oil sector.

Petrobras ranked 33rd in profit growth compared to 2007, ahead of corporations such as PDVSA (37th) and Unilever (39th). In return on assets, Petrobras holds the 21st spot, in front of Chevron (23rd), Coca-Cola (26th), and Pepsico (27th). Fortune magazine's ranking took criteria such as revenue, profit, capital, and shareholder participation in 2008 into account.

In 2008, Petrobras' domestic and foreign oil and LNG production reached 1.97 million barrels per day, of which 1.85 million bpd came from its domestic production in Brazil. Petrobras' natural gas production (excluding liquefied petroleum gas- LPG) amounted to 68 million cubic meters/day of which 51 mm³/day is produced in Brazil.

About 89 percent of oil production and 69 percent of gas originates from offshore fields, mostly in ultra deep water. In 2008, Petrobras' oil and gas production accounted for 98 percent of Brazil's production.

From January to August 2009, Petrobras' average oil and LNG production, in **Brazil only**, amounted to 1.9 million bpd while natural gas reached 50.2 mm³/d:

http://www2.petrobras.com.br/ri/port/DestaquesOperacionais/ExploracaoProducao/pdf/ProducaoEP_2009_port.pdf

Petrobras' 2009-2013 strategic investment plan includes:

- E&P (USD\$104.6bn, USD\$92bn of which is dedicated to Brazil E&P)
- Downstream (USD\$43.4bn)
- Gas and energy (USD\$11.8bn)
- Petrochemicals (USD\$5.6bn)
- Corporate (USD\$3.2bn)
- Distribution (USD\$3bn)
- Biofuels (USD\$2.8bn)

For its expanded exploration and production activities, Petrobras plans to contract about 300 new vessels (e.g. oil drilling and production platforms, ships, platform support boats, and very large crude oil carriers.)

Petrobras has already contracted 29 drilling ships and semi-submersible drilling platforms over the last few years. The company will lease another 28 through 2017, making a total of 57 drilling rigs. The delivery schedule is as follows:

- 17 delivered between 2009 and 2011
- 12 chartered via international bidding, being delivered in 2012
- 28 expected to be built in Brazil and operated by Brazilian companies, and delivered between 2013 and 2017

Other equipment purchase forecasts follow:

| Items | Un. | TOTAL | Items | Un. | TOTAL |
|------------------------|-----|--------|------------------------|-----|---------|
| Wet Christmas Tree | un | 500 | Pumps | un | 8.000 |
| Well Head | un | 500 | Compressors | un | 700 |
| Flexible Lines | km | 4.000 | Winch | un | 450 |
| Manifolds | un | 30 | Crane | un | 200 |
| Producing pipes | t | 42.000 | Engines | un | 1.000 |
| Umbilical | km | 2.200 | Turbines | un | 350 |
| Dry Christmas Tree | un | 1.700 | Structure Steel (Hull) | t | 940.000 |
| Onshore well head | un | 1.700 | | | |
| Items | Un. | TOTAL | Items | Un. | TOTAL |
| Reactors | un | 280 | Power Generators | un | 500 |
| Oil and water splitter | un | 50 | Filters | un | 300 |
| Storage Tankers | un | 1.800 | Flares | un | 30 |
| Turrets | un | 550 | | | |

Source: Petrobras

Petrobras recently closed contracts with CBO, Norskan, Wilson & Sons, and Edison Chouest for the construction of the first 24 support vessels under the Petrobras "Program for the Renovation of Offshore Support Fleet" (Prorefam). The Prorefam is part of Brazil's federal government Growth Acceleration Program (PAC) that calls for 64 platforms supply vessels (PSVs); 54 anchor handling tug supply boats (AHTS), 18 offshore research vessels (ORSV), and 11 tug boats.

The latest available information on Petrobras' procurement shows that in 2008, the company's direct acquisitions amounted to USD\$45.2 billion - USD\$7 billion in goods and USD\$38.2 billion in services - and 78 percent of these were made by Brazilian suppliers, an increase of eight percentage points in comparison with 2007. Just 19.4 percent of the goods and 22.5 percent of the services were purchased from foreign suppliers. (Source: Petrobras 2008 Annual Report). From 2009 to 2013, Petrobras estimates sourcing USD\$100 billion from local domestic suppliers.

New oil and gas discoveries in Brazil:

In November 2007, Petrobras issued a statement estimating that the Tupi field in the offshore Santos basin holds 5 -8 billion barrels of oil equivalent (boe) of recoverable light oil and natural gas. The 5 billion-8 billion boe estimate is based on analysis of the formation tests for the second well (1-RJS-646) in the Tupi area in Santos block BM-S-11. The oil is 28 degrees API. Petrobras operates the area with a 65 percent stake. Partners in the project are UK major BG Group with 25 percent and Portuguese oil company Petrogal-Galp Energia with 10 percent. Petrobras has also wrapped up its regional analysis of the potential of the pre-salt areas in Brazil's south and southeast basins where Tupi is located. Once confirmed, the estimated volumes of recoverable oil and from pre-salt rocks would significantly increase Brazil's oil reserves, placing it among a select group of countries.

Pre-salt refers to a 500-mile wide "new frontier" area in Brazil, located under a thick layer of salt -- 350 miles off of Brazil's southeastern coast, stretching from Espírito Santo, Rio de Janeiro, São Paulo,

Paraná, and Santa Catarina States, at an average water depth of over 7000 feet. Wells in the Espírito Santo, Campos, and Santos basins have reportedly demonstrated high productivity for light oil and natural gas. About 25 percent of the pre-salt area has already been contracted to private companies through Brazil's competitive bid round process.

In January 2008, Petrobras communicated to ANP that it had discovered a natural gas and condensate deposit in the Santos basin's BM-S-24 block that it is comparing to Tupi. Other large discoveries (e.g. Jupiter, Carioca, Iara, Guará) have followed Tupi.

Assuming a low end figure of the Tupi at 5.2 billion barrels -- Credit Suisse, Goldman Sachs, and Wood MacKenzie have similar projected necessary expenditures as follows:

- Capital Expenditures (CAPEX): USD\$62 billion
- Operating Expenditures (OPEX): USD\$22 billion

Projected Expenditures for Entire Pre-Salt Area

It is unknown how much oil could be in the pre-salt area as a whole. Some are guessing that it could be 30-70 billion barrels. For this range and employing the same formulas used to calculate necessary expenditures for just the Tupi Field, we could be looking at the following:

- Capital Expenditures (CAPEX): USD\$ 360 billion-USD\$ 1 trillion
- Operating Expenditures (OPEX): USD\$ 120-350 billion

For the period 2009-2020, Petrobras estimates investments of around USD\$111.4 billion to develop **pre-salt fields**. Petrobras is currently conducting appraisal plans (e.g. performing extended oil well tests.).

The Brazilian Petroleum Institute (IBP) estimates that **other oil companies** will be investing USD\$34.5 billion in Brazil from 2009-2013 - - USD\$12 billion of which to develop pre-salt fields during this period. Beyond 2013, investment figures for the other oil companies have not been made available.

For the pre-salt areas of the Campos and Santos Basins, the table below shows the oil blocks and each responsible consortium. The chart also includes the relative percentages for each company involved.

Santos Basin's Main Pre-Salt Partnerships - (Note: BR stands for Petrobras)

| Block | Consortium |
|--------------|---------------------------------------|
| BM-S-8 | BR (66%), Shell (20%), Petrogal (14%) |
| BM-S-9 | BR (45%), BG (30%), Repsol (25%) |
| BM-S-10 | BR (65%), BG (25%), Partex (10%) |
| BM-S-11 (**) | BR (65%), BG (25%), Petrogal (10%) |
| BM-S-17 | BR (100%) |
| BM-S-21 | BR (80%), Petrogal (20%) |
| BM-S-22 | Exxon (40%), Hess (40%), BR (20%) |
| BM-S-24 | BR (80%), Petrogal (20%) |
| BM-S-42 | BR (100%) |
| BM-S-50 | BR (60%), BG (20%), Repsol (20%) |
| BM-S-52 | BR (60%), BG (40%) |

Source: Petrobras

Petrobras's pre-salt production chronology is as follows:

| Year | Petrobras Pre-Salt Production | Petrobras' Partners Pre-Salt |
|-------------|--------------------------------------|-------------------------------------|
|-------------|--------------------------------------|-------------------------------------|

| | | Production |
|------|---------------|-------------------|
| 2013 | 157,000 bpd | 62,000 bpd |
| 2015 | 422,000 bpd | 160,000 bpd |
| 2017 | 873,000 bpd | 463,000 bpd |
| 2020 | 1,183,000 bpd | 632,000 bpd |

Source: Petrobras 9/22/09 presentation

Petrobras Abroad: Petrobras performs various activities overseas, and maintains a steady international operation, including financial operations with banks and stock exchanges. Petrobras is present in 21 countries through six business units in Argentina, Angola, Bolivia, Colombia, United States, and Nigeria.

Petrobras shareholders: Petrobras' capital stock is composed of common shares and preferred shares, all without par value. The Brazilian government is required by law to own at least a majority of voting stock and currently owns 55.7 percent of common shares, which translates to 32 percent of all shares, common and preferred combined. The Brazilian government does not have any special voting rights, other than the right to always elect a majority of Petrobras' directors. As of December 2008, Petrobras's main shareholders information has been as follows:

| Main Shareholders (12/31/2008) | | |
|---------------------------------------|----------------------------|---------------------------|
| | % On Voting Capital | % On Total Capital |
| Name | | |
| Brazilian Government | 55.71% | 32.21% |
| Stock Market | 5.60% | 13.54% |
| BNDES Participações - BNDESPar | 1.86% | 7.62% |

Petrobras in Numbers (Data referring to the year 2008)

Source: Petrobras website

R\$ means "Reais" currency

NET EARNINGS

R\$ 215,118,000

NET INCOME

R\$ 32,988,000

INVESTMENTS

R\$ 53.3 billion

SHAREHOLDERS

208,962

EXPLORATION

109 drilling rig

RESERVES (SEC CRITERION)

11.19 billion barrels of oil and gas equivalent (boe)

PRODUCTIVE WELLS

13,174

PRODUCTION PLATFORMS

112 (78 fixed; 34 floating)

REFINERIES

16

YIELD FROM REFINERIES

1,937,000 barrels a day

PIPELINES

25,197 km

TANKER FLEET

189 (54 belonging to Petrobras)

GAS STATIONS

5,998

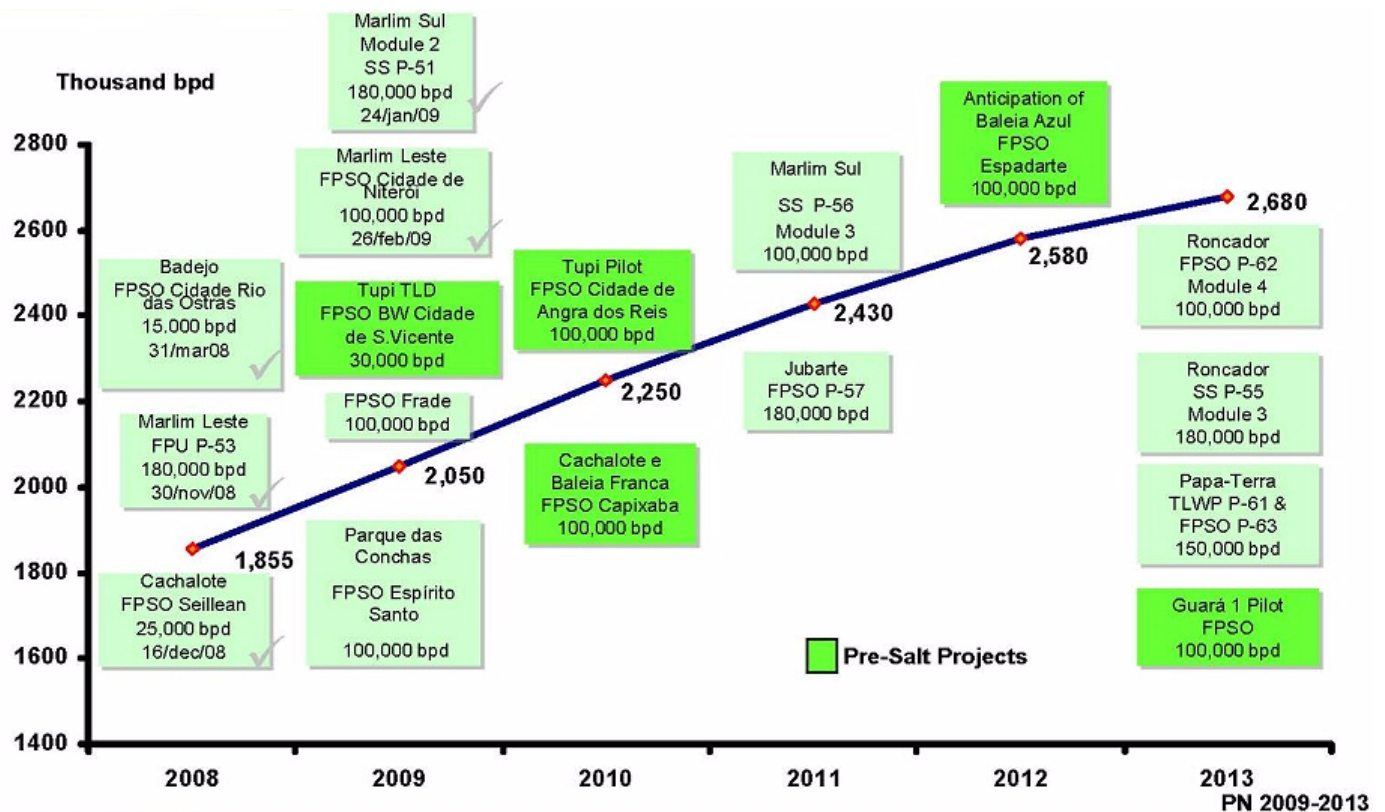
FERTILIZERS

3 Plants

EMPLOYEES

74,240

Petrobras' Major Oil Projects:



Natural Gas:

After more than four years of discussion, in March 2009, Brazil's new Gas Law was enacted and published in the Official Gazette as Law #11,909/09. Although the new Gas Law has 60 articles, it is not a complete package, and

a number of important aspects remain subject to future political and regulatory decisions. Also, ANP the Brazilian energy regulator must create considerable additional regulatory structure to complete the legal framework, and clarify how it plans to enforce the new regulations. ANP will put licenses up for bid under a procedure whereby all interested parties will have the chance to secure a contract for transportation through existing gas lines or in lines to be constructed or expanded. Concessions will be granted to carriers who enter into commitments as required in the bid round. Additional comments on the new law can be viewed at

http://www.buyusainfo.net/docs/x_5297250.pdf

As of July 2009, the average natural gas consumption in Brazil was 37.2 million cubic meters/day, with the industrial segment leading the consumption (23.2 mm³/day), followed by vehicle gas/gas stations (5.5 mm³/d). The following report provides market information and statistics on natural gas consumption, production and other useful data. It is available at the Brazilian Association of Piped Natural Gas (ABEGAS) website:

http://www.abegas.org.br/arquivos/relatorio_julho09_mercado.pdf

Market Data

Regulatory changes:

On August 31, 2009, the Brazilian Government submitted to Congress its proposals to significantly change the legal and regulatory framework for the exploration and production of oil and natural gas in the pre-salt area and certain other areas deemed strategic by the Government. The proposed model was submitted in four separate pieces of legislation with separate goals: 1) trade the current oil leasing concessions model for production sharing contracts, making Petrobras the operator in all blocks, with a minimum 30 percent share of each block, 2) create a new state company, "Petrosal," to manage the blocks, 3) establish a social fund to manage the government proceeds, and 4) capitalize Petrobras through an assignment of Brazilian treasury bonds from the Government, which Petrobras would then use to acquire from the Government the right to explore and produce up to the equivalent of 5 billion barrels of oil on pre-salt reserves. The controversial issue of respective state and local share of revenues (royalties) is not addressed in the new plan.

As the proposed model must be ratified by Brazil's Congress, and Brazil's Presidential elections are scheduled for November 2010, long debates are expected before a new oil regime is established. For the time being, no other oil leasing auction has been announced, not even for oil onshore fields. Previously awarded concession contracts will remain valid, and oil companies can continue to move forward with their exploration and development under those terms.

Best Prospects

In May 2009, during a presentation made at the Offshore Technology Conference in Houston, TX, Petrobras disclosed the following list of equipment and services considered critical for the E&P segment. Petrobras indicated that these types of equipment and services are expected to offer good sales prospects for foreign companies:

E&P CRITICAL EQUIPMENT: OPPORTUNITIES FOR FOREIGN SUPPLIERS:

- Production pipelines alloy coatings
- Turbo compressors (6-10 Mw)
- Polyester mooring cables
- Mooring systems
- Drilling pipelines
- Electrical cables
- Control systems for well control
- Oil and gas metering systems
- Offshore drilling rigs
- Gravel packing

- Drill bits
- Steam generators (25-50 x 10⁶ BTU/d);
- Special sphere subsea valves
- Subsea sensors for analysis of oil and grease traces in water

CRITICAL SERVICES FOR E&P ACTIVITIES: OPPORTUNITIES FOR FOREIGN SUPPLIERS:

- Drilling
- Workover services
- Flexible lines and umbilicals laying services
- Support to ROV vehicles
- Support to mooring activities
- Special vessels
- Subsea interconnection services
- Monitoring and inspection techniques for structural integrity of flexible risers

Key Suppliers

Multinationals such as FMC Energy, Cooper Cameron, Marine/Oceaneering, National Oil, Weatherford, Halliburton, BJ Services, the Swedish/Swiss ABB, the British Wellstream, Norwegian Aker Kvaerner, and several others have plants or service facilities in Brazil, and hold a significant market share in their respective sub sectors. A good listing of such companies as well as of Brazilian manufacturers can be found in the Oil and Gas Directory published by the *Brasil Energia* magazine with an English translation:

<http://www.brasilenergia.com.br/index.php?lang=eng&>

Another source of local oil and gas suppliers is the Brazilian Machinery Association ABIMAQ:

<http://www.datamaq.com.br/Areas/Account/ListOfSectorAccountResult.aspx?sectorId=c2d9fd95-7b9f-dc11-b5ac-0003ffd6629f&text=&isSector=1>

Prospective Buyers

Petrobras and other oil companies with oil exploration and appraisal areas in Brazil (both offshore and onshore blocks) are listed in the table below:

| Companies | # of Oil Blocks | km ² | % market share | Ranking by km ² |
|-------------------|-----------------|-----------------|----------------|----------------------------|
| Abaris | 3 | 8,818.21 | 2.4279 | 6th |
| Agemo | 1 | 383.50 | 0.1056 | 40th |
| Alvorada Petróleo | 13 | 328.68 | 0.0905 | 46th |
| Anadarko | 7 | 1,337.14 | 0.3682 | 27th |
| Aurizônia | 4 | 66.02 | 0.0182 | 63rd |
| BG | 15 | 10,839.61 | 2.9844 | 5th |
| Brasoil | 6 | 450.65 | 0.1241 | 38th |
| Brazalta | 7 | 476.87 | 0.1313 | 37th |
| Brownstone | 2 | 377.54 | 0.1039 | 41st |
| Cemig | 6 | 2,629.10 | 0.7239 | 19th |
| Cisco | 1 | 2,918.00 | 0.8034 | 18th |
| Codemig | 7 | 4,058.92 | 1.1175 | 13th |

| | | | | |
|----------------|-----|------------|---------|------|
| COMP | 13 | 3,746.29 | 1.0315 | 15th |
| Cowan | 6 | 208.47 | 0.0574 | 53rd |
| Delp | 5 | 1,411.37 | 0.3886 | 24th |
| Devon | 9 | 4,972.11 | 1.3690 | 8th |
| Eaglestar | 1 | 9.13 | 0.0025 | 74th |
| Ecopetrol | 7 | 368.70 | 0.1015 | 43rd |
| El Paso | 8 | 1,383.13 | 0.3808 | 25th |
| ENI | 3 | 3,369.96 | 0.9278 | 16th |
| Esso (Exxon) | 1 | 553.82 | 0.1525 | 33rd |
| Hess Brasil | 2 | 986.55 | 0.2716 | 29th |
| Hocol | 4 | 262.91 | 0.0724 | 48th |
| IBV Brasil | 10 | 2,112.25 | 0.5816 | 21st |
| Inpex | 3 | 420.68 | 0.1158 | 39th |
| Integral | 1 | 26.00 | 0.0072 | 71st |
| Karoon | 5 | 865.90 | 0.2384 | 30th |
| Koch | 2 | 57.00 | 0.0157 | 64th |
| Lábrea | 2 | 50.43 | 0.0139 | 66th |
| Logos | 1 | 45.24 | 0.0125 | 68th |
| Maersk Oil | 5 | 510.07 | 0.1404 | 35th |
| Manati | 1 | 213.75 | 0.0589 | 52nd |
| Mercury | 4 | 53.27 | 0.0147 | 65th |
| Morro do Barro | 1 | 102.58 | 0.0282 | 60th |
| Newfield | 1 | 487.60 | 0.1342 | 36th |
| Nord Oil & Gas | 4 | 251.07 | 0.0691 | 50th |
| Norse Energy | 5 | 368.31 | 0.1014 | 44th |
| Odebrecht | 1 | 26.60 | 0.0073 | 70th |
| OGX | 23 | 4,677.23 | 1.2878 | 10th |
| Oil M&S | 43 | 112,961.97 | 31.1015 | 2nd |
| ONGC Campos | 6 | 2,265.36 | 0.6237 | 20th |
| Orteng | 11 | 4,045.39 | 1.1138 | 14th |
| Partex | 12 | 373.76 | 0.1029 | 42nd |
| Perenco | 5 | 1,811.51 | 0.4988 | 23rd |
| Petra Energia | 7 | 21,470.52 | 5.9114 | 3rd |
| Petro Vista | 2 | 17.68 | 0.0049 | 72nd |
| Petrobras | 319 | 116,504.92 | 32.0769 | 1st |
| Petrogal | 57 | 5,201.35 | 1.4321 | 7th |
| Petrosynergy | 19 | 1,364.50 | 0.3757 | 26th |
| Phoenix | 11 | 174.88 | 0.0481 | 55th |
| Potióleo | 1 | 125.58 | 0.0346 | 58th |
| Quantra | 7 | 120.29 | 0.0331 | 59th |
| Queiroz Galvão | 14 | 1,890.76 | 0.5206 | 22nd |

| | | | | |
|--------------------|----|-------------------|------------|------|
| RAL Engenharia | 7 | 292.53 | 0.0805 | 47th |
| Recôncavo E&P | 1 | 15.49 | 0.0043 | 73rd |
| Repsol YPF | 25 | 4,952.70 | 1.3636 | 9th |
| Rio das Contas | 1 | 47.50 | 0.0131 | 67th |
| RMC | 6 | 803.76 | 0.2213 | 31st |
| Severo & Vilares | 3 | 250.61 | 0.0690 | 51st |
| Shell | 16 | 13,320.94 | 3.6676 | 4th |
| Silver Marlin | 10 | 140.55 | 0.0387 | 57th |
| Sipet Agropastoril | 6 | 1,076.10 | 0.2963 | 28th |
| SK Corporation | 3 | 602.02 | 0.1658 | 32nd |
| Somol | 1 | 9.13 | 0.0025 | 75th |
| Sonangol | 2 | 143.86 | 0.0396 | 56th |
| Starfish | 16 | 514.16 | 0.1416 | 34th |
| StatoilHydro | 15 | 4,295.27 | 1.1826 | 11th |
| STR | 2 | 3,075.50 | 0.8468 | 17th |
| Total | 1 | 353.25 | 0.0973 | 45th |
| Univen | 5 | 79.59 | 0.0219 | 62nd |
| UTC | 1 | 31.84 | 0.0088 | 69th |
| Vale | 26 | 4,094.51 | 1.1273 | 12th |
| Vipetro | 3 | 88.70 | 0.0244 | 61st |
| W. Washington | 3 | 205.34 | 0.0565 | 54th |
| Woodside | 9 | 258.27 | 0.0711 | 49th |
| Total | | 363,204.75 | 100 | |

Source: Brasil Energia Magazine map 2009

Oil companies such as Exxon, Anadarko, BG, Devon, Hess, Partex, Nord, Maersk, OGX, Petrogal and others have the following 2009 drilling campaigns:

Anadarko plans to invest USD\$100 million in 2009 to test its September 2008 pre-salt oil discovery made in the BM-C-30 field, Campos Basin. Transocean will perform the drilling campaign. Anadarko has also partnered with other oil companies in four other oil blocks in Brazil.

British Gas (BG) may become the second largest oil company operating in Brazil given its partnerships with Petrobras in three pre-salt fields and as operator in one other pre-salt field in the Santos Basin. This year, BG and its partner Repsol announced new discoveries in this Basin. BG's estimated investments for the next five years should reach USD\$5 billion.

Devon Energy plans to drill three wells (two as operator and one in partnership with Petrobras). Like Shell and Chevron, Devon is another foreign company that already **produces oil** in Brazil. Devon's oil field, named Polvo, started production in 2007. Polvo was the first offshore field production in Brazil where Petrobras **is not** a partner. Before Devon with Polvo, Shell started to produce oil in Brazil, but in partnership with Petrobras. Devon's Polvo field has a 40 percent partnership with SK, a Korean company.

Exxon is the only foreign oil company **to operate** a pre-salt field in Brazil. The BM-S-22 field is Exxon's only asset in Brazil. Exxon is the block operator with a 40 percent stake. U.S. oil company Hess holds a 40 percent interest and Petrobras the remaining 20 percent.

Hess is the operator in the BM-ES-30 field in the Espírito Santo Basin. Company plans to drill one well this year. Hess is also partnered with Exxon in the BM-S-22.

In the upstream segment, Chevron opened its Exploration and Production office in Rio in 1997. Chevron operates two oil blocks, and has just started production of the Frade oilfield. Chevron also holds concession rights in three more oil blocks in partnership with Petrobras and other oil companies. Frade is located in the Campos basin, Brazil's most productive offshore area, with estimated reserves of one billion barrels of oil at 18-20 degrees API, of which 200-300 million barrels is recoverable. Chevron has a 42.5 percent stake in the field and operating rights, while Petrobras has a 42.5 percent stake and Frade Japão Petróleo has a 15 percent stake.

In addition to supplying Petrobras and other oil companies directly, U.S. suppliers may also supply goods or services to drilling contractors that hold exploration drilling contracts with Petrobras. Some of these companies include Pride, Diamond Offshore, Transocean, and Noble.

Other large prospective buyers are turnkey contractors and/or shipyards, including: GDK Engenharia <http://www.gdksa.com>, Camargo Correa <http://www.camargocorrea.com.br>, IESA Óleo e Gás <http://www.iesa.com.br>, Estaleiro Mauá <http://www.estaleiromaua.ind.br>, Odebrecht <http://www.odebrecht.com.br>, Saipem <http://www.saipem.it>, SBM <http://www.singlebuoy.com>, Keppel Fels <http://www.kfelsbrasil.com.br>, and others.

Market Entry

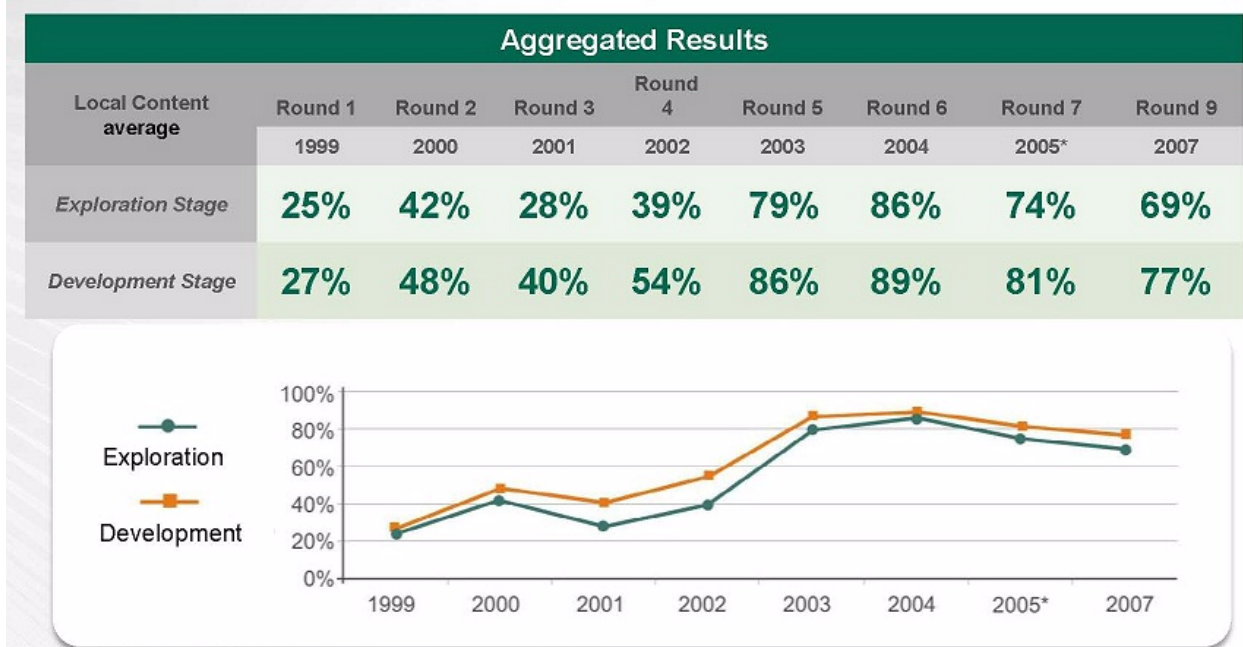
Market Access Issues/Local equipment/services content: U.S. oil and gas firms entering Brazil are likely to face strategic challenges created by protectionist sentiments, which increased during the current Administration. Petrobras and Brazilian federal and state governments are increasingly seen as favoring local firms or firms with significant levels of local content. For example, the level of local equipment/service content in Petrobras purchases varies from 51 percent in the exploration and production (E&P) segment to as much as 92 percent downstream (refineries, oil terminals, etc.).

Information on local content: Brazil's oil and gas regulatory agency (ANP) is responsible for the oil block E&P licensing rounds and for the contracts that are signed once the oil companies are granted concessions to explore and develop oil fields in Brazil.

Each concession contract signed as of the 7th oil licensing round (in 2005) has an attached excel spreadsheet listing the percentage levels of local content, by equipment category. The oil companies have to abide by these commitments when they source equipment and services at each phase of their project (e.g. exploration, development). A blank sample of this spreadsheet can be viewed at the ANP website: http://www.anp.gov.br/doc/petroleo/conteudo_local/Resolucao39.pdf, at the end of Resolution 39 that talks about local content.

There is no public version of these concession contracts and of the local content spreadsheets once the contracts are signed, as decisions regarding which types of equipment will be sourced in Brazil or abroad are considered strategic information for the oil companies; however, the ANP website lists the minimum and maximum levels of local content that ANP requires for each type of oil basin of each oil licensing round. At the end of each oil licensing round, ANP publishes the results, by oil block, showing an average local content percentage by oil block. <http://www.anp.gov.br/brasil-rounds/round7/english/index.asp>.

During an ANP presentation in May 2009 in Houston, ANP showed the increasing levels of local content:



Source: ANP

In an April 2009 article published by *Brasil Energia* magazine (<http://www.energiahoje.com/>), the following table showed some categories of equipment and services and the percentages of local content that oil companies have committed to meet:

| Equipment and/or Service | Percentage of local content |
|--|-----------------------------|
| Sea seismic acquisition | 5% |
| Offshore rigs for deep water | 10% |
| 2D and 3D seismic processing | 40% |
| Platform support vessels (includes onshore base support as well) | 15% |
| Drilling services | 30% |
| Wet Christmas trees | 85% |
| Onshore drilling rigs | 90% |
| Well heads | 45% |

To audit local content compliance, ANP created specific regulations and methodologies that the oil companies have to follow and submit periodically to the regulatory agency. A list of local content certifying entities approved by ANP is available at:
http://www.anp.gov.br/petro/lista_empresas_certificadoras.asp.

Reportedly, over 100 local domestic suppliers have begun to secure local content certification. Some of these companies include: Environpact Engenharia e Consultoria em Meio Ambiente; Centro Potiguar de Geociências; Christensen Roder; Western Geco; Fugro Brasil; Up Offshore Apoio Marítimo; Perenyi Serviços Técnicos de Limpeza Industrial; MI Swaco do Brasil; CWA Consultores & Serviços de Petróleo. (Source: *Brasil Energia* magazine, April 2009 edition).

Additional information on local content (available in Portuguese only) is available at
http://www.anp.gov.br/petro/conteudo_local.asp

In September 2009, the Brazilian government (GOB) announced that it was evaluating a new fiscal benefit policy for foreign companies that decide to open manufacturing facilities in Brazil, and that the Brazilian Industry Development Ministry and the National Economic and Social Development Bank (BNDES) would work together to identify which oil and gas subsectors could merit new fiscal incentives. Concurrently, the GOB began considering tax reductions and a new fiscal regime for the local oil and gas equipment supplier chain to make domestic manufacturers more competitive with foreign suppliers.

Petrobras also is expanding credit services to its suppliers through BNDES, which will enter into a partnership with local suppliers, and co-manage a fund with other asset management institutions (e.g. Modal Bank) for the next five to ten years. In exchange, these businesses will receive capital injections to finance investment in infrastructure, technology and staff training. Petrobras estimates that the local industry needs USD\$9 billion to fulfill the expected expansion. Although these funding arrangements are targeted for onshore equipment supply, refinery, loading, and pipeline industries, the program will also begin to cover off-shore companies in 2010 and pre-salt suppliers in 2012; however, initial partnerships will be offered to ten of the 4460 potential companies already registered as Petrobras' suppliers.

These partnerships are not loans, since Petrobras already participates in FDICs and FIPs for small and medium-sized businesses. Petrobras is performing a strict evaluation of each company to ensure that the companies have a stable system in place to continue operating independently post-partnership. BNDES has USD\$500 million available for initial investment and hopes to have USD\$5 billion within the next few months (for more information: <http://www.tnpetroleo.com.br/clipping/3282/petrobras-busca-recursos-para-seus-fornecedores>).

Brazil does not have an FTA with the United States, thus U.S. equipment suppliers cannot participate in these partnerships and are subject to regular import duties into Brazil. The average import duty for oil and gas equipment is 14 percent, as noted in the statistical table at the **Appendix** section of this report. Other state and federal taxes apply to the importing process - a hypothetical sample of which is available from the Country Commercial Guide (CCG), a U.S. Commercial Service publication at www.export.gov. This homepage also describes in details the business facilitation services available for U.S. companies by the U.S. Commercial Service in Brazil.

The receptivity to U.S. goods and services is high, as Brazil has traditionally enjoyed strong commercial ties with U.S. firms, mainly because of high quality standards and the fact that many project managers have been educated in the United States.

Foreign Credit Lines:

In May 2009, the U.S. Export Import Bank issued a USD\$2 billion preliminary commitment to Petrobras to purchase U.S. equipment and services. The complete press release can be viewed at <http://www.exim.gov/pressrelease.cfm/1C3E8A59-FA74-F3CB-3F3E6E44E287C2DA/>

Early in 2009, China extended a USD\$10 billion credit line to Brazil to develop off-shore oil resources which will be repaid with exports of oil, effectively making China Brazil's first client of Brazil for pre-salt oil.

Petrobras' Supplier's Registration Process:

Petrobras' decentralized procurement activities allow its various business units (e.g., upstream, downstream, energy, etc.) to procure directly or through its Materials Procurement Department (MPD); nevertheless, the use of Petrobras' central, pre-approved vendor lists is mandatory. Occasionally, if the supplier is not registered with Petrobras, a business unit can establish a cooperation agreement for the supplier to test its technology on a certain project. If the technology proves efficient, Petrobras may then purchase it directly or refer the supplier for registration so it can be invited to bid on future projects. Occasionally, Petrobras can procure imported materials at less expense from its U.S. subsidiary, Petrobras America.

U.S. companies interested in supplying equipment or services to Petrobras or to its turnkey contractors must be part of Petrobras' pre-approved vendor's list. Petrobras requires that the foreign company secure a legal representative in Brazil. Usually, commercial representatives or agents can play this role. For information on how to register as a supplier with Petrobras, U.S. companies are encouraged to view the Petrobras website, available in English: http://www2.petrobras.com.br/ingles/ads/ads_Negocios.html

Appendix:

Import Statistics

(a) January through December 2008

Note: The products listed below also apply to other industrial segments in Brazil. The table also shows the import duties for these products.

| HS Code* | HS Description | 2008 (a) Exports to Brazil (USD) | 2008 (a) U.S. Exports to Brazil (USD) | 2008 (a) U.S. % Market Share | Competitors | Import Duty |
|----------|---|---|--|---------------------------------------|--------------------------------------|----------------|
| 73041 | PIPE, HOLLOW SECTIONS, OIL/GAS, SEAMLESS, STEEL OR IRON (NOT CAST) | 32,659,401 | 2,231,510 | 6.8% | Germany China Japan | 16% |
| 73042 | PIPE, HOLLOW SECTIONS, OIL/GAS DRILLING, SUPPLY OR PRODUCTION WELL CASING, SEAMLESS, STEEL OR IRON (NOT CAST) | 39,960,641 | 1,813,931 | 4.5% | Japan France Spain | 16% |
| 730429 | CASINGS, OIL/GAS DRILLING, SEAMLESS, STEEL OR IRON (NOT CAST) | 13,409,595 | 4,807,193 | 35.8% | Argentina Czech Republic Japan | 16% |
| 73061 | PIPE, HOLLOW SECTIONS, OIL/GAS PIPELINES, RIVETED, WELDED, NOT SEAMLESS, STEEL OR IRON | 14,575,458 | 96,703 | 0.7% | China South Korea Switzerland | 14% |
| 73062 | PIPE, HOLLOW SECTIONS, OIL/GAS DRAW, RIVETED, WELDED, SUPPLY OR PRODUCTION WELL CASING, NOT SEAMLESS, STEEL OR IRON | 5,484,609 | 2,386,438 | 43.5% | France China Netherlands | 14% |
| 820713 | ROCK DRILLING OR EARTH BORING TOOLS WITH WORKING PART OF CEMENT, AND PARTS THEREOF | 7,853,205 | 611,432 | 7.8% | Chile Israel Sweden | 18% |
| 820719 | ROCK DRILL BITS, CORE BITS AND REAMERS OF METAL BASE, AND PARTS THEREOF | 53,982,159 | 32,181,278 | 59.6% | United Kingdom Sweden Italy | 18% |
| 820750 | TOOLS FOR DRILLING, OTHER THAN FOR ROCK DRILLING, AND PARTS THEREOF | 21,637,920 | 1,218,590 | 5.6% | China Germany France | 18% |
| 841330 | PUMPS FOR FUEL, LIBRIFICANTS OR COOLING LIQUIDS, SPARK IGNITION ENGINES OR COMPRESSION | 78,690,583 | 20,574,556 | 26.1% | Germany France Argentina | 18% |
| 841350 | OTHER RECIPROCATING POSITIVE DISPLACEMENT PUMPS | 88,354,222 | 40,034,797 | 45.3% | Germany Japan Switzerland | 2% ** 14% |
| 841360 | OTHER ROTARY POSITIVE DISPLACEMENT PUMPS | 41,258,866 | 4,681,646 | 11.3% | Spain Germany Japan | 2% ** 14% |
| 842121 | WATER FILTERING OR PURIFYING MACHINERY AND APPARATUS | 34,850,388 | 7,068,778 | 20.3% | Germany Japan Israel | 2% ** 14% |
| 842123 | OIL OR FUEL FILTERS FOR INTERNAL | 55,428,142 | 25,159,985 | 45.4% | Japan | 16% |

| | | | | | | |
|--------|--|-------------|------------|-------|-------------------------------------|-----------------|
| | COMBUSTION ENGINES | | | | Germany Italy | |
| 842129 | OIL-SEPARATION EQUIPMENT | 209,732,165 | 48,990,431 | 23.4% | Singapore Germany France | 2% ** 14% |
| 842131 | AIR FILTERS FOR INTERNAL COMBUSTION ENGINES | 36,663,416 | 12,130,027 | 33.1% | Japan Germany China | 16% |
| 842139 | AIR FILTERING EQUIPMENT | 69,501,907 | 19,785,013 | 28.4% | Singapore Germany Japan | 2% ** 18% |
| 843039 | COAL OR ROCK CUTTERS AND TUNNELING MACHINERY, OTHER THAN SELF-PROPELLED | 6,770,491 | 172,366 | 2.5% | France Finland Germany | 0% |
| 843041 | BORING OR SINKING MACHINERY, SELF-PROPELLED | 37,124,168 | 14,065,488 | 37.9% | Italy India Spain | 0; 2% ** 14% |
| 843049 | BORING OR SINKING MACHINERY, ROTARY, FOR OIL WELL AND GAS FIELD DRILLING | 2,915,315 | 95,275 | 3.3% | Sweden Canada China | 2% **** 10% |
| 843143 | PARTS FOR BORING OR SINKING MACHINERY | 49,153,925 | 30,403,178 | 61.9% | United Kingdom Germany Sweden | 0; 2% ** 14% |
| 9015 | OTHER SURVEYING EQUIPMENT AND PARTS | 28,770,969 | 13,020,982 | 45.3% | Australia Canada Germany | 0; 2% ** 14% |
| 848110 | PRESSURE REDUCING VALVES | 61,370,420 | 12,379,774 | 20.2% | Germany France Canada | 2% ** 14% |
| 902610 | FLOW METERS | 37,280,667 | 11,350,401 | 30.4% | Norway Germany Japan | 2% ** 18% |
| 902810 | GAS METERS | 1,121,289 | 2,260 | 0.2% | Italy Argentina Canada | 14% 18% |

Source: Secex

* Brazilian Common External Code. The first four TEC digits correspond to the U.S. HS Code.

** Reduced tariff applies depending on selected NCM (harmonized code).

Trade Events

The Offshore Technology Conference (OTC). <http://www.otcnet.org/2010/pages/exhibits/index.html>
May 3-6, 2010 in Houston, TX. A number of Brazilian companies, agents, and distributors visit OTC as part of CS Rio's delegation.

Rio Oil and Gas Show (biennial) www.rioilegas.com.br: The next show and **USCS U.S. pavilion** will be September 13, 16, 2010. Note: Kallman Worldwide will recruit U.S. companies for the USCS pavilion. <http://www.kallman.com/> Show organizer: The Brazilian Petroleum Institute – www.ibp.org.br.

Brazil Offshore Macaé (biennial - odd years) <http://www.brasiloffshore.com>. June 14 – 17, 2011. For more information please visit: <http://www.brasiloffshore.com/Eng/> Kallman Worldwide will recruit U.S. companies for the USCS pavilion. <http://www.kallman.com/>

Rio Pipeline Show: <http://www.ibp.org.br/main.asp?View={5D99112A-2BE3-4F29-8955-E36E50029744}>/ September 2011 (TBC).

New: Offshore Technology Conference-Brazil (OTCB). Scheduled for early October 2011 in Rio de Janeiro, Brazil. http://www.otcnet.org/pages/archives/press_releases/2009/090918_otc_brazil.html. OTC Brazil will be a biannual event.

Other trade shows can be viewed at:

https://www.focusbrazil.org.br/siteUSA/industry/energy/Events_Oil.html

<http://www.ibp.org.br/main.asp?Team={EC92379C-49C0-472A-B626-ECB3BF6AA60E}>

<http://www.energiahoje.com/agenda/brasil/port>

<http://www.energiahoje.com/agenda/exterior>

Resources & Contacts

- Please visit our Market Research Library (http://www.buyusainfo.net/adsearch.cfm?search_type=int&loadnav=no) or our Energy Industry Web page <https://www.focusbrazil.org.br/siteUSA/index.aspx?link=industry/energy/index.html> for more updates on business opportunities.
- Petrobras: www.petrobras.com.br
- Ministry of Mines and Energy (MME): www.mme.gov.br
- ANP – National Petroleum, Gas and Biofuels Agency: www.anp.gov.br
- The Brazilian Petroleum Institute – <http://www.ibp.org.br/main.asp>
- Brasil Energia Magazine: <http://www.energiahoje.com/online/eventos>
- TB Petroleum Magazine: www.tnpetroleo.com.br or www.tbpetroleo.com.br

For More Information

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